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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/683,888	02/27/2002	David M. Hoffman	GEMS8081.097	7804

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EXAMINER	
HO, ALLEN C	

ART UNIT	PAPER NUMBER
2882	

DATE MAILED: 12/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/683,888	HOFFMAN, DAVID M.	
	Examiner	Art Unit	
	Allen C. Ho	2882	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 September 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4-25 and 28-31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *28* is/are allowed.

6)☒ Claim(s) *1,4-25 and 29-31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 February 2002* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the mechanism that produces the light amplification claimed in claims 1, 4-25, and 29-31 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claim 29 is objected to because of the following informalities: line 2, "electromagnetic energy" should be replaced by --x-rays--. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1, 4-25, and 29-31 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not

described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 1 recites an optically stimulatable material configured to output light at an intensity greater than that output by the block of scintillating material. Claim 5 recites the optical emissions cause the second component to output a signal having an intensity exceeding an intensity of the optical emissions received from the first component. Claim 6 recites the optical emissions output from the first component and received by the second component causes a cascading of multiple emissions from the optically stimulatable material. Claim 9 recites the second intensity exceeds the first intensity. Claim 13 recites the fiber optic scintillator has light intensity greater than that of a scintillator without built-in gain. Claim 15 recites each cell is configured to output light energy having an intensity exceeding an intensity of the high frequency electromagnetic energy detected by the cell. Claim 25 recites a method of manufacturing a fiber optic scintillator cell having an optical gain. Claim 29 recites the optical emissions cause the second component to output a signal having an intensity exceeding an intensity of the optical emissions received by the first component. Claim 30 recites optical emissions output from the first component and received by the second component causes a cascading of multiple emissions from the optically stimulatable material. The applicant fails to disclose a mechanism for light amplification or producing an optical gain in the optically stimulatable material.

5. Claims 1, 4-22, and 31 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for providing a scintillator that converts x-rays into visible light, does not reasonably provide enablement for providing a scintillator that converts

electromagnetic energy outside x-rays into visible light. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

As understood by persons skilled in the art, electromagnetic energy comprises a broad spectrum of light. The only kind of scintillation materials disclosed by the applicant is the kind that converts x-rays into visible light (paragraph [0033], lines 7-13). There is no disclosure of a scintillator that responds to a range of electromagnetic energy outside the x-rays, for example, infrared.

Allowable Subject Matter

6. Claim 28 is allowed.

7. The following is a statement of reasons for the indication of allowable subject matter:

With regard to claim 28, the prior art fails to teach or fairly suggest a detector for a CT system, wherein the detector comprises a pixilated array of scintillation elements, each element includes a first component formed of scintillation material and a second component formed of optically stimulatable material, and a pixilated array of photodiodes coupled to receive light emissions from the pixilated array of scintillation elements along a direction parallel to the x-ray path as claimed.

Response to Arguments

8. The rejections under 35 U.S.C. 102 and 103 have been withdrawn in response to applicant's amendment.

9. Applicant's arguments filed 30 September 2003 with respect to rejections under 35 U.S.C. 112 first paragraph have been fully considered but they are not persuasive.

The applicant argues that the claims are enabled because they define how the optically stimulatable component is formed or fabricated from a material that will output light at an intensity greater than that received, not how the optically stimulatable material is charged or caused a cascading of optical emissions. The examiner respectfully disagrees. The claims explicitly claim that the optically stimulatable material outputs light at an intensity greater than the output by the scintillator (see the rejection under 35 U.S.C. 112 first paragraph above). The examiner fails to see how the optically stimulatable material is stimulated to have an inverted population when it is disposed between an array of scintillators and an array of photodiodes. Without the teaching of how the light amplification is achieved, the optically stimulatable material would merely scatter or attenuate the input, instead of amplifying it.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen C. Ho whose telephone number is (703) 308-6189. The examiner can normally be reached on Monday - Friday from 8:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward J. Glick can be reached at (703) 308-4858. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9318.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0530.

Allen C. Ho

Allen C. Ho
Patent Examiner
Art Unit 2882

ACH